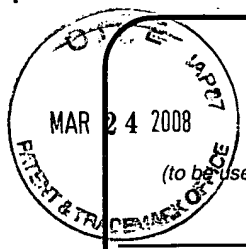


AF
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/662,703
Filing Date	September 15, 2003
First Named Inventor	Zhidan Cheng, et al.
Group Art Unit	2619
Examiner Name	Robert W. Wilson
Attorney Docket Number	200-10900 (PB030016AF)

Total Number of Pages in This Submission

42

ENCLOSURES (check all that apply)

☒ Fee Transmittal Form (in duplicate)

☒ Fee Attached (check for \$510)

☐ Amendment/Response

☐ After Final (Response)

☐ Affidavits/declaration(s)

☐ Extension of Time Request

☐ Express Abandonment Request

☐ Information Disclosure Statement and Form PTO-1449

☐ Certified Copy of Priority Document(s)

☐ Response to Missing Parts/ Incomplete Application

☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

☐ Assignment Papers (for an Application)

☐ Drawing(s)

☐ Licensing-related Papers

☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition

☐ Petition to Convert to a Provisional Application

☐ Power of Attorney, Revocation Change of Correspondence Address

☐ Terminal Disclaimer

☐ Request for Refund

☐ CD, Number of CD(s) _____

☐ After Allowance Communication to Group

☒ Appeal Brief

☐ Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)

☐ Proprietary Information

☐ Status Inquiry

☒ Other Enclosure(s) (please identify below):

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Remarks

Please charge any necessary fees or credit overpayment to Deposit Account No. 502305. A duplicate copy of this transmittal is attached for this purpose.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name

Mark C. Pickering, Reg. No. 36,239

Signature

Mark C. Pickering

Date

March 20, 2008

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: M/S Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date:

March 20, 2008

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Robin L. King

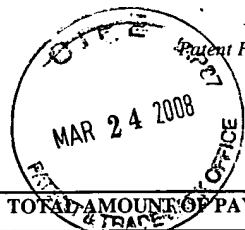
Signature

Robin L. King

Date

March 20, 2008

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

FEE TRANSMITTAL**For FY 2008***Patent Fees are subject to annual revision.***TOTAL AMOUNT OF PAYMENT** \$510**METHOD OF PAYMENT** (check one)

1. ☒ The Commissioner is hereby authorized to charge any fees or credit any overpayment under 37 CFR 1.16 and 1.17 which may be required by this paper to Deposit Account No. **502305**

LAW OFFICES OF MARK C. PICKERING

☐ Applicant claims small entity status. See 37 CFR 1.27.

2. ☒ **Payment Enclosed:**

☒ Check ☐ Money Order ☐ Other

FEE CALCULATION**1. FILING FEE/SEARCH FEE/EXAMINATION FEE****LARGE ENTITY****SMALL ENTITY**

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1011/1111/1311	1030	2011/2111/2311	515	Utility	
1012/1112/1312	440	2012/2112/2312	220	Design	
1013/1113/1313	680	2013/2113/2313	340	Plant	
1014/1114/1314	1440	2014/2114/2314	720	Reissue	
1005	210	2005	105	Provisional	

SUBTOTAL (1) 0**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

		Extra Claims	Fee from below	Fee Paid
Total Claims	* - 20 **	= 0	x 50	= \$ 0
Independent	* - 3 **	= 0	x 210	= \$ 0
Multiple Dep.			*	= \$ 0

**** or number previously paid, if greater; for Reissues, see below:**

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	50	2202	25	Claim in excess of 20
1201	210	2201	105	Independent claims in excess of 3
1203	370	2203	185	Multiple dependent claim, if not paid
1204	210	2204	105	** Reissue ind. claims over original patent
1205	50	2205	25	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) \$0**Complete if Known**

Application Number	10/662,703
Filing Date	September 15, 2003
First Named Inventor	Zhidan Cheng, et al.
Examiner Name	Robert W. Wilson
Group Art Unit	2619
Attorney Document No.	200-10900 (PB030016AF)

FEE CALCULATION (continued)**3. Additional Fees****Large Entity** **Small Entity**

Fee Code Fee

1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2520	1812	2520	For filing a request for ex parte reexamination	
1804	920	1804	920	Requesting publication of SIR prior to Examiner action	
1805	1840	1805	1840	Requesting publication of SIR after Examiner action	
1251	120	2251	60	Extension for reply within first month	
1252	460	2252	230	Extension for reply within second month	
1253	1050	2253	525	Extension for reply within third month	
1254	1630	2254	815	Extension for reply within fourth month	
1255	2220	2255	1110	Extension for reply within fifth month	
1401	510	2401	255	Notice of Appeal	
1402	510	2402	255	Filing a brief in support of an appeal	510
1403	1030	2403	510	Request for oral hearing	
1451	1510	1451	1510	Petition to institute a public use proceeding	
1452	510	2452	255	Petition to revive-unavoidable	
1453	1540	2453	770	Petition to revive-unintentional	
1501	1440	2501	720	Utility issue fee (or reissue)	
1502	820	2502	410	Design issue fee	
1503	1130	2503	565	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	810	2809	405	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	810	2810	405	For each additional invention be examined (37 CFR 1.129(b))	
1801	810	2801	405	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

*Reduced by Basic Filing Fee Paid **SUBTOTAL (3)** \$510**SUBMITTED BY**

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Mark C. Pickering, Reg. No. 36,239

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PATENT

Dated: March 20, 2008 By: Julia L. King

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Zhidan Cheng, et al.

Appln. No.: 10/662,703

Filed: September 15, 2003

For: VIRTUAL IP INTERFACE

Group Art Unit: 2619

Examiner: Robert W. Wilson

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is an appeal from the decision dated November 9, 2007 of the Examiner finally rejecting claims 1-7 and 13-24.

Real Party in Interest

The real party in interest is Tellabs Petaluma, Inc. as indicated in the assignment recorded at reel 014509, frames 0220-0223, on September 15, 2003, and the change of name recorded at reel 016483, frames 0740-0745, on April 20, 2005.

03/25/2008 RFEKADU1 00000004 10662703

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APPEAL BRIEF

Atty. Docket No. 200-10900
(PB030016AF)

Related Appeals and Interferences

Appellant is not aware of any other related appeals or interferences.

Status of Claims

Claims 8-12 have been cancelled.

Claims 1-7 and 13-24 are being appealed.

Claims 13-16 stand rejected under the first paragraph of 35 U.S.C. §112 as failing to comply with the written description requirement.

Claims 13-16 stand rejected under the second paragraph of 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention.

Claims 1-7, 17-22, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over appellant's admitted prior art in view of Bhatia et al. (U.S. Patent No. 6,829,239).

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over appellant's admitted prior art in view of Bhatia et al. and further in view of Aiken, Jr. et al. (U.S. Patent No. 6,430,622).

Claims 13-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over appellant's admitted prior art in view of Ma et al. (U.S. Patent No. 6,798,743) and further in view of Engwer et al. (U.S. Patent No. 7,082,114).

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over appellant's admitted prior art in view of Ma et al. and Engwer et al. and further in view of Bhatia.

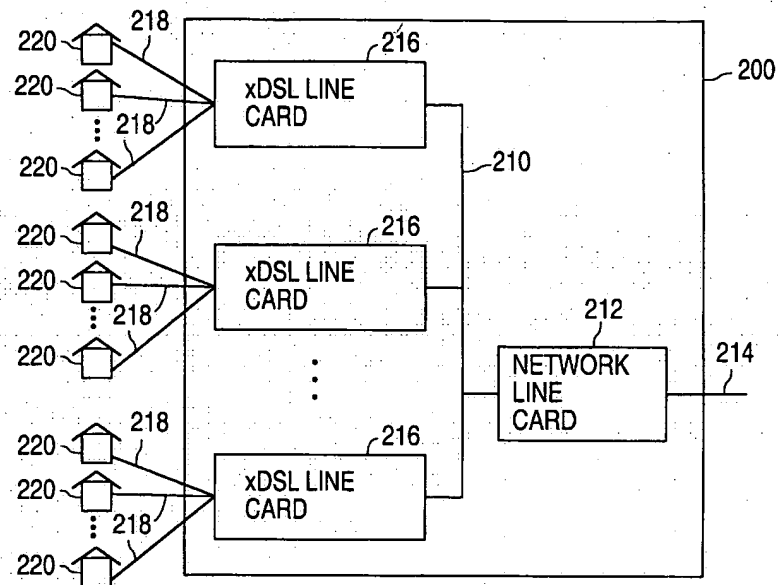
Status of Amendments

A response-after-final was filed on December 10, 2007. An Advisory Action was mailed on January 10, 2008. An amendment-after-final was filed on February 6, 2008 to correct inadvertent typographical errors in the specification and claim 13. An Advisory Action was mailed on February 20, 2008, indicating that the February 6, 2008 amendment-after-final was entered.

Summary of Claimed Subject Matter

The subject matter of independent claim 1 is a device that includes a bus and a plurality of first line cards that are connected to the bus. The bus can be read to be, for example, bus 210 shown in appellant's FIG. 2 (reproduced below) and discussed on page 3, line 26 of appellant's specification. The plurality of first line cards can be read to be, for example, the xDSL line cards 216 shown in appellant's FIG. 2 and discussed on page 5, lines 3-4 of appellant's specification.

In addition, each first line card has a plurality of local ports, which are associated with a plurality of customer devices that have a plurality of IP addresses. As discussed on page 5, lines 3-13 of appellant's specification and shown in appellant's FIG. 2, the local ports of the xDSL line cards 216 can be connected to a number of local lines 218 which, in turn, can be connected to a number of xDSL modems 220. Each xDSL modem 220, in turn, can be connected to a number of customer internet devices that have a number of IP addresses. Thus, the local ports of the xDSL line cards 216 are associated with the customer internet devices that are connected to the modems 220.

**FIG. 2**

Further, the device of claim 1 also includes a second line card that is connected to the bus. The second line card can be read to be, for example, network line card 212. In addition, the second line card has a network port that is connectable to a network segment. The network segment can be read to be, for example, network line 214 shown in appellant's FIG. 2 and discussed on page 3, line 27 of appellant's specification. As discussed from page 3, line 29 to page 4, line 1 of appellant's specification and shown in appellant's FIG. 2, the network port of network line card 212 can be connected to network line 214.

The network port of the second line card also has an IP address and a subnet mask. The subnet mask of the network port identifies a range of IP addresses from the IP address of the network port. The range of IP addresses includes all of the plurality of IP addresses of the plurality of customer devices. As discussed in appellant's specification on page 4, lines 1-3, the network port of second line card

212 has an IP address and an associated subnet mask, which identifies the IP addresses of all of the customer internet devices.

The subject matter of dependent claim 2 requires that the plurality of local ports are only connectable to a plurality of modems. As noted above and as discussed on page 5, lines 3-13 of appellant's specification and shown in appellant's FIG. 2, the local ports of the xDSL line cards 216 can be connected to a number of local lines 218 which, in turn, can be connected to a number of xDSL modems 220.

The subject matter of independent claim 13 is a method that includes receiving a message addressed to one of a plurality of customer devices. The plurality of customer devices to be connected to a plurality of modems, the plurality of modems to be connected to a plurality of first line cards, the plurality of first line cards to be connected to a second line card that received the message. The message has an IP address and a subnet mask, and the plurality of customer devices have a plurality of IP addresses.

The plurality of modems required by claim 13 can be read to be, for example, the xDSL modems 220 shown in applicant's FIG. 2 and discussed in appellant's specification on page 5, lines 5-7, while the plurality of first line cards required by claim 13 can be read to be, for example, the xDSL line cards 216 shown in appellant's FIG. 2 and discussed in appellant's specification on page 5, lines 3-4. In addition, the second line card required by claim 13 can be read to be, for example, network line card 212 shown in applicant's FIG. 2 and discussed in appellant's specification on page 3, lines 26-27.

In addition, on page 5, lines 8-13, appellant's specification teaches that a number of customer internet devices, which can be read to be the plurality of customer devices required by the claims, are connected to the xDSL modems 220

(which were read to be the plurality of modems). Appellant's specification also teaches that each customer internet device has an IP address. As a result, appellant's specification also teaches that the customer internet devices have IP addresses.

Further, one skilled in the art would understand that a message includes a destination address. One would also understand that a downstream message, which is received by network line card 212, can have a destination address of a customer internet device that is connected to an xDSL modem 220. As a result, one skilled in the art would understand that network line card 212 receives messages that are addressed to the customer internet devices that are connected to the xDSL modems 220. In addition, on page 4, lines 2-4, appellant's specification teaches that the message has an IP address and a subnet mask.

The method of claim 13 also includes identifying a complete IP address from the IP address and the subnet mask of the message. Further, the method of claim 13 includes determining if the complete IP address is identical to an IP address of the plurality of IP addresses of the plurality of customer devices. On page 6, lines 16-21, appellant's specification teaches that network line card 212 evaluates the IP address that is associated with a message, and determines the line card that corresponds with the IP address via a table. One skilled in the art would understand that to evaluate the IP address and determine the line card that corresponds with the IP address, one can identify the complete IP address and determine if the complete IP address is identical to an IP address of a customer internet device stored in the table.

The subject matter of independent claim 17 is a device that includes a plurality of first line cards. The plurality of first line cards can be read to be, for

example, the xDSL line cards 216 shown in appellant's FIG. 2 and discussed on page 5, lines 3-4 of appellant's specification.

In addition, each first line card has a plurality of local ports, which are associated with a plurality of customer devices that have a plurality of IP addresses. As discussed on page 5, lines 3-13 of appellant's specification and shown in appellant's FIG. 2, the local ports of the xDSL line cards 216 can be connected to a number of local lines 218 which, in turn, can be connected to a number of xDSL modems 220. Each xDSL modem 220, in turn, can be connected to a number of customer internet devices that have a number of IP addresses. Thus, the local ports of the xDSL line cards 216 are associated with the customer internet devices that are connected to the modems 220.

Further, the device of claim 17 also includes a second line card that is connected to the plurality of first line cards. The second line card can be read to be, for example, network line card 212. In addition, the second line card has a network port that is connectable to a network segment. The network segment can be read to be, for example, network line 214 shown in appellant's FIG. 2 and discussed on page 3, line 27 of appellant's specification. As discussed from page 3, line 29 to page 4, line 1 of appellant's specification and shown in appellant's FIG. 2, the network port of network line card 212 can be connected to network line 214.

The network port of the second line card also has an IP address and a subnet mask. The second line card identifies a range of IP addresses from the IP address and the subnet mask of the network port. The range of IP addresses includes all of the plurality of IP addresses of the plurality of customer devices. As discussed in appellant's specification on page 4, lines 1-3, the network port of second line card

212 has an IP address and an associated subnet mask, which identifies the IP addresses of all of the customer internet devices.

The subject matter of dependent claim 18 requires that the plurality of local ports are only connectable to a plurality of modems. As noted above and as discussed on page 5, lines 3-13 of appellant's specification and shown in appellant's FIG. 2, the local ports of the xDSL line cards 216 can be connected to a number of local lines 218 which, in turn, can be connected to a number of xDSL modems 220.

Grounds of Rejection to be Reviewed on Appeal

Whether claims 13-16 are unpatentable under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

Whether claims 13-16 are unpatentable under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention.

Whether claims 1-7, 17-22, and 24 are unpatentable under 35 U.S.C. §103(a) over appellant's admitted prior art in view of Bhatia et al. (U.S. Patent No. 6,829,239).

Whether claim 23 is unpatentable under 35 U.S.C. §103(a) over appellant's admitted prior art in view of Bhatia et al. and further in view of Aiken, Jr. et al. (U.S. Patent No. 6,430,622).

Whether claims 13-15 are unpatentable under 35 U.S.C. §103(a) over appellant's admitted prior art in view of Ma et al. (U.S. Patent No. 6,798,743) and further in view of Engwer et al. (U.S. Patent No. 7,082,114).

Whether claim 16 is unpatentable under 35 U.S.C. §103(a) over appellant's admitted prior art in view of Ma et al. and Engwer et al. and further in view of Bhatia.

Argument

Rejection under 35 U.S.C. §112, First Paragraph

Claims 13-15

In rejecting claim 13, the Examiner stated that appellant's specification teaches on page 6, lines 16-29, that the network card compares the received message to the IP address and the associated network card in order to determine which xDSL line card and ports to forward the message. However, the Examiner questioned where the specification teaches the limitations of claim 13.

In the response-after-final mailed December 10, 2007, appellant responded to the Examiner's question as follows. Claim 13 recites, in part,

"receiving a message addressed to one of a plurality of customer devices, the plurality of customer devices to be connected to a plurality of modems, the plurality of modems to be connected to a plurality of first line cards, the plurality of first line cards to be connected to a second line card that received the message, the message having an IP address and a subnet mask, the plurality of customer devices having a plurality of IP addresses."

The plurality of modems required by claim 13 can be read to be, for example, the xDSL modems 220 shown in appellant's FIG. 2, while the plurality of first line

cards required by claim 13 can be read to be, for example, the xDSL line cards 216 shown in appellant's FIG. 2. In addition, the second line card required by claim 13 can be read to be, for example, network line card 212 shown in appellant's FIG. 2.

Further, appellant's specification teaches that the:

"xDSL modem 220 at a customer's premise, in turn, is connected to a number of customer internet devices, such as personal computers, and a telephone. Each customer internet device has a port that is physically connected to an xDSL modem 220, an IP interface that is associated with the port, and an IP address that is associated with the IP interface." (See page 5, lines 8-13 of appellant's specification.)

Thus, appellant's specification teaches that a number of customer internet devices, which can be read to be the plurality of customer devices required by the claims, are connected to the xDSL modems 220, which can be read to be the plurality of modems required by the claims. In addition, appellant's specification teaches that each customer internet device has an IP address. As a result, appellant's specification also teaches that the customer internet devices have a plurality of IP addresses.

Further, one skilled in the art would understand that a message includes a destination address. One would also understand that a downstream message, which is received by network line card 212, can have a destination address of a customer internet device that is connected to an xDSL modem 220. As a result, one skilled in the art would understand that network line card 212 receives messages that are addressed to the customer internet devices that are connected to the xDSL modems 220.

Further, appellant's specification teaches that:

"the IP address has an associated subnet mask that identifies the IP addresses of all of the customer internet devices (hosts) that are connected to device 200." (See page 4, lines 2-4 of appellant's specification.)

As a result, appellant's specification teaches that the message has an IP address and a subnet mask.

In addition to the above, claim 13 also recites:

"identifying a complete IP address from the IP address and the subnet mask of the message; and

"determining if the complete IP address is identical to an IP address of the plurality of IP addresses of the plurality of customer devices."

Appellant's specification teaches:

"Each line card 212 and 216 maintains a table that indicates each of the IP addresses that are associated with each port of each line card 212 and 216." (See page 5, lines 18-20 of appellant's specification.)

Appellant's specification also teaches:

"Network line card 212 receives all of the messages that match the IP address and subnet mask of network line card 212, evaluates the IP addresses associated with the messages, and determines the line cards and ports that correspond with the IP addresses via the table. Following this, network line card 212 forwards the messages on to the xDSL line cards 216 on bus 210.

"Each xDSL line card 216, in turn, receives the messages that match the IP addresses that are supported by the xDSL line card 216." (See page 6, lines 16-23 of appellant's specification.)

As a result, appellant's specification teaches that network line card 212 evaluates the IP address that is associated with a message, and determines the line card that corresponds with the IP address via a table. One skilled in the art would understand that to evaluate an IP address and determine the xDSL line card 216 that corresponds with the IP address via the table so that the xDSL line card 216 receives messages that match the IP addresses that are supported by the xDSL line card 216, one must identify the complete IP address and determine if the complete IP address is identical to an IP address of a customer internet device stored in the table.

Thus, the Examiner questioned where appellant's specification teaches the limitations of claim 13, and appellant responded by identifying where the specification teaches the limitations of claim 13. Therefore, from what can be determined, appellant satisfied the grounds of the Examiner's §112, first paragraph, rejection of independent claim 13, and also thereby the rejection of dependent claims 14-15.

In the Advisory Action mailed on January 10, 2008, the Examiner maintained the first paragraph rejection, arguing that the limitation "IP address has an associated subnet mask that identifies the IP address of all customer interface devices" has not been overcome. The Examiner further argued

"[j]ust because the same wording is used in the specification and the claim does not mean that the limitation is enabled. The Examiner believes that the applicant may be describing a submask with a header extension field which provides information which identifies all of the devices. The applicant's specification does not provide a satisfactory written description for one of ordinary skill in the art to know what this subnet mask is."

With respect to the non-enablement argument, appellant notes that:

“[a] specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. §112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.

“[I]t is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement.”
MPEP §2164.04.

Thus, with respect to the Examiner’s assertion that “[j]ust because the same wording is used in the specification and the claim does not mean that the limitation is enabled,” MPEP §2164.04 indicates that a claim limitation is enabled when the same wording is used in the specification and the claim, unless the Examiner has a reason to doubt the objective truth of the teachings in the specification. In the present case, the Examiner has not pointed to any teaching in appellant’s specification which the Examiner believes is untruthful or inaccurate.

Further, appellant is respectfully unclear as to the written description argument made by the Examiner that applicant may be describing a submask with a header extension field and that, as a result of this, appellant’s “specification does not provide a satisfactory written description for one of ordinary skill in the art to know what this subnet mask is.”

Appellant's specification, however, does provide a satisfactory written description for one of ordinary skill in the art to make and use a subnet mask without undue experimentation. In part, appellant's specification teaches:

"Sub-netting, which is described in Request For Comments (RFC) 950, is a procedure for using a number of bits in the IP address to define a number of sub-networks within a network. With internet protocol version four (IPv4), each IP address has 32 bits where a first number of bits defines the network, and a second number of bits defines the hosts that are connected to the network.

"With a class B address, the first 16 bits are used to identify the network, and the last 16 bits are used to define the hosts that are connected to the network. With sub-netting, the last 16 bits are further divided to define a number of sub-networks within the network, and a number of the hosts within each sub-network.

"For example, the first 6 bits of the 16 host bits can be used to identify a number of sub-networks, while the last 10 bits of the 16 host bits can be used to identify 1022 customers within a sub-network. (RFC 950 prohibits host addresses that utilize all zeros or all ones. Thus, the total number of hosts that can be supported by a ten bit host address is 1022 or $1024-2$.)" (See page 4, lines 5-21 of appellant's specification.)

In addition, in a written description rejection, the Examiner must determine what a claim as a whole covers, understand how appellant provides support for the claimed invention, and determine whether there is sufficient written description to inform a skilled artisan that the inventor was in possession of the claimed invention as a whole at the time the application was filed. MPEP 2163. Further, in a written description rejection, the Examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims. MPEP 2163.04.

In the present case, the Examiner appears to argue that claim 13 can be read to cover a submask with a header extension field, but that one of ordinary skill in the art would not recognize from appellant's disclosure that the inventor was in possession of an invention that covered a submask with a header extension field.

The Examiner, however, has not set forth any evidence as to what a submask with a header extension field is, why claim 13 can be read onto a submask with a header extension field, and why one skilled in the art would not recognize from appellant's disclosure that the inventor was in possession of an invention that covered a submask with a header extension field.

Thus, since the Examiner has not pointed to any teaching in appellant's specification which the Examiner believes is untruthful or inaccurate, appellant's specification provides a satisfactory written description for one of ordinary skill in the art to make and use a subnet mask without undue experimentation, and the Examiner has not set forth any evidence regarding a submask with a header extension field, claim 13 satisfies the requirement of the first paragraph of section 112. In addition, dependent claims 14-15 satisfy the requirements of the first paragraph of section 112 for the same reasons as claim 13.

Claim 16

Claim 16 recites:

"each first line card of the plurality of first line cards maintains a table that includes each port of each first line card, and an associated IP address of a customer device for each port of each first line card that has an associated IP address."

Appellant's specification teaches:

"Each line card 212 and 216 maintains a table that indicates each of the IP addresses that are associated with each port of each line card 212 and 216." (See page 5, lines 18-20 of appellant's specification.)

Thus, appellant's specification teaches that each xDSL line card 216, which can be read to be a first line card, maintains a table that includes each port of each first line card, and an associated IP address of a customer device for each port of each first line card. Therefore, from what can be determined, appellant's specification supports the limitations required by claim 16 and, as a result, satisfies the requirements of the first paragraph of section 112.

Rejection under 35 U.S.C. §112, Second Paragraph

Claims 13-16

In rejecting claim 13, the Examiner asserted that appellant's specification lacks antecedent basis for claim 13. Appellant is unfamiliar with a requirement that the specification have antecedent basis, and assumed the Examiner intended to argue that the limitations of claim 13 lack support in the specification.

In the response-after-final mailed December 10, 2007, since the above first paragraph discussion points out where appellant's specification supports the limitations of claim 13, appellant combined the first paragraph and second paragraph discussions.

In the Advisory Action, the Examiner maintained the second paragraph rejection, arguing that although the plurality of first line cards required by the claims can be read to be the xDSL line cards 216 shown in appellant's FIG. 2, and the second line card required by the claims can be read to be network line card 212 shown in appellant's FIG. 2, claim 13 remains confusing because the second line card could still be interpreted as one of the plurality of line cards.

Appellant is respectfully unclear as to the argument set forth by the Examiner. The Examiner appears to be arguing that a claim limitation is confusing if more than one structure within the specification can be read as providing support for the claim limitation, whereas a claim limitation is not confusing if only a single structure within the specification can be read as providing support for the claim limitation.

Thus, the Examiner appears to agree that the second line card required by claim 13 can be read to be network line card 212 shown in appellant's FIG. 2, but appears to argue that the second line card required by claim 13 can also be read to be another structure and, since more than one structure within the specification can be read as providing support for the second line card claim limitation, the second line card claim limitation is confusing.

A claim limitation, however, is not confusing because more than one structure within the specification can be read as providing support for the claim limitation. Instead, each structure separately and independently provides support for the claim limitation. For example, a claim which recites an inverter connected to a controller is not confusing because the specification discloses that two inverters are connected to the controller. Instead, the two inverter structures separately and individually provide support for the claim limitation.

Thus, since a claim limitation is not confusing because more than one structure within the specification can be read as providing support for the claim limitation, claim 13 satisfies the requirement of the second paragraph of section 112. In addition, since claims 14-16 depend from claim 13, claims 14-16 satisfy the requirements of the second paragraph of section 112 for the same reasons as claim 13.

Rejection under 35 U.S.C. §103(a) Over
Admitted Prior Art and U.S. Patent No. 6,829,239 (Bhatia)

Claims 1, 7, 17, 19-22, and 24

Claim 1 recites:

“a bus;
“a plurality of first line cards connected to the bus, each first line card having a plurality of local ports, the plurality of local ports being associated with a plurality of customer devices that have a plurality of IP addresses; and
“a second line card connected to the bus, the second line card having a network port that is connectable to a network segment, the network port having an IP address and a subnet mask, the subnet mask of the network port identifying a range of IP addresses from the IP address of the network port, the range of IP addresses including all of the plurality of IP addresses of the plurality of customer devices.”

Claim 17 recites similar limitations.

In rejecting the claims, the Examiner pointed to bus 110 shown in appellant's prior art FIG. 1 (reproduced below) as constituting the bus required by the claims, and the xDSL line cards 116 shown in appellant's prior art FIG. 1 as constituting the plurality of first line cards required by the claims. In addition, each xDSL line card 116 has a number of local ports (connected to a number of local lines 118), which the Examiner read to be the plurality of local ports required by the claims. With respect to the plurality of customer devices, the Examiner argued that a number of customer devices are associated with the local lines 118.

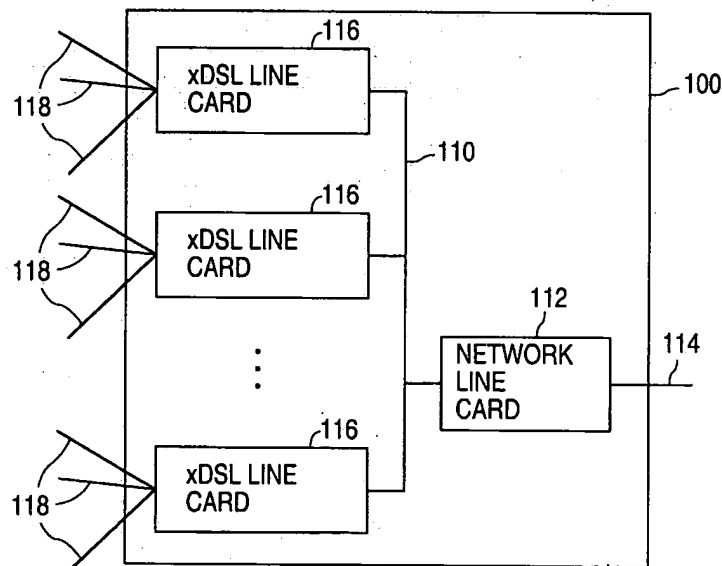


FIG. 1
(PRIOR ART)

In further rejecting the claims, the Examiner pointed to network line card 112 shown in appellant's prior art FIG. 1 as constituting the second line card required by the claims. In addition, line card 112 has a network port connected to network line

114, which the Examiner read to be the network port and the network segment required by claim 1.

The Examiner noted that appellant's prior art FIG. 1 does not teach that the network port of network line card 112 identifies a range of IP addresses from the IP address of the network port, where the range of IP addresses includes all of the plurality of IP addresses of the plurality of customer devices. However, the Examiner pointed to the Bhatia patent as teaching these limitations.

Specifically, the Examiner, citing from column 4, line 46 to column 6, line 17, argued that Bhatia teaches that the LAN modem maintains a list of the IP addresses that are associated with a number of workstations or customer devices and, upon receipt of a packet from the network side, determines which workstation or customer device should receive the packet. The Examiner then argued that it would be obvious to incorporate the LAN modem teachings of Bhatia into the network port (of network line card 112 shown in appellant's prior art FIG. 1), and that one skilled in the art would be motivated to do so in order to improve performance.

However, even if the teachings of Bhatia were incorporated into appellant's admitted prior art, the resulting structure would still fail to read onto the claims. If LAN modem 300 shown in FIG. 2A of Bhatia maintains a list of the IP addresses that are associated with a number of workstations or customer devices, it is only a list of the IP addresses that are associated with the workstations or customer devices that are directly connected to LAN modem 300.

Thus, a direct connection to LAN modem 300 is required before the IP address of a workstation or customer device can be included on the list. As a result, if Bhatia teaches maintaining a list of only the devices that are directly connected to an apparatus with a network port, and the teachings were incorporated into network

line card 112 shown in appellant's prior art FIG. 1, then one skilled in the art would understand Bhatia to suggest that the network port of line card 112 can maintain a list of only the IP addresses of the xDSL line cards 116 that are directly connected to network line card 112 and, upon receipt of a packet from the network side, determine which xDSL line card 116 should receive the packet.

Therefore, even if the teachings of Bhatia were incorporated into appellant's prior art FIG. 1, the combination still fails to teach or suggest that the network port of line card 112 identifies a range of IP addresses from the IP address of the network port, where the range of IP addresses includes all of the plurality of IP addresses of the plurality of customer devices. As a result, claims 1 and 17 are patentable over appellant's admitted prior art in view of Bhatia.

Further, even if, only for the sake of argument, one skilled in the art would understand Bhatia to suggest that the network port of line card 112 of central office 100 shown in appellant's FIG. 1 can maintain a list of only the IP addresses of the network devices that are directly connected to the local ports of the xDSL line cards 116, the Examiner has pointed to no evidence which shows that a customer internet device can be directly connected to an xDSL line card 116 via a local line 118.

Therefore, even if the teachings of Bhatia were incorporated into appellant's prior art FIG. 1, the combination still fails to teach or suggest that the network port of line card 112 identifies a range of IP addresses from the IP address of the network port, where the range of IP addresses includes all of the plurality of IP addresses of the plurality of customer devices. As a result, claims 1 and 17 are patentable over appellant's admitted prior art in view of Bhatia.

In addition, since claim 7 depends from claim 1, claim 7 is patentable over appellant's admitted prior art in view of Bhatia for the same reasons that claim 1 is

patentable over appellant's admitted prior art in view of Bhatia. Further, since claims 19-22 and 24 depend either directly or indirectly from claim 17, claims 19-22 and 24 are patentable over appellant's admitted prior art in view of Bhatia for the same reasons that claim 17 is patentable over appellant's admitted prior art in view of Bhatia.

Claims 2-6 and 18

Claims 2-6 depend from claim 1 and are patentable over appellant's admitted prior art in view of Bhatia for the same reasons that claim 1 is patentable over appellant's admitted prior art in view of Bhatia. Claim 18 depends from claim 17 and is patentable over appellant's admitted prior art in view of Bhatia for the same reasons that claim 17 is patentable over appellant's admitted prior art in view of Bhatia.

In addition, claim 2 requires that "the plurality of local ports are only connectable to a plurality of modems." Claim 18 recites similar limitations. As a result, claims 2 and 18 require that only modems be connected to the local ports of the first line cards.

Thus, even if one skilled in the art would understand Bhatia to suggest that the network port of line card 112 shown in appellant's FIG. 1 can maintain a list of only the IP addresses of the network devices that are directly connected to the local ports of the xDSL line cards 116, claims 2 and 18 require that only modems be connected to the local ports of the xDSL line cards 116. As a result, one skilled in the art would understand that any list maintained by a modified version of the network port of line card 112 shown in appellant's FIG. 1 would not be of customer internet devices, but instead would be a list of modems.

Therefore, since there is nothing in the cited sections of Bhatia that teaches or suggests that the network port of line card 112 maintain a list of the IP addresses of the customer devices that are associated with the xDSL line cards 116 when only modems can be connected to the local ports of the first line cards 116, claims 2 and 18 are patentable over appellant's admitted prior art in view of Bhatia for this further reason. Further, claims 3-6 depend from claim 2 and are patentable over appellant's admitted prior art in view of Bhatia for the same reasons that claim 2 is patentable over appellant's admitted prior art in view of Bhatia.

Rejection under 35 U.S.C. §103(a) Over Admitted Prior Art and
U.S. Patent No. 6,829,239 (Bhatia) and U.S. Patent No. 6,430,622 (Aiken)

Claim 23

The Examiner rejected claim 23 under 35 U.S.C. §103(a) as being unpatentable over applicant's admitted prior art in view of Bhatia et al. and further in view of Aiken. Claim 23 depends indirectly from claim 17 and, as a result, is patentable over applicant's admitted prior art in view of Bhatia et al. and further in view of Aiken, Jr. et al. for the same reasons that claim 17 is patentable over applicant's admitted prior art in view of Bhatia.

Rejection under 35 U.S.C. §103(a) Over Admitted Prior Art and
U.S. Patent No. 6,798,743 (Ma) and U.S. Patent No. 7,082,114 (Engwer)

Claims 13-15

Claim 13 recites:

“receiving a message addressed to one of a plurality of customer devices, the plurality of customer devices to be connected to a plurality of modems, the plurality of modems to be connected to a plurality of first line cards, the plurality of first line cards to be connected to a second line card that received the message, the message having an IP address and a subnet mask, the plurality of customer devices having a plurality of IP addresses;

“identifying a complete IP address from the IP address and the subnet mask of the message; and

“determining if the complete IP address is identical to an IP address of the plurality of IP addresses of the plurality of customer devices.”

In rejecting the claims, the Examiner pointed to central office device 100 shown in appellant's prior art FIG. 1, and argued that device 100 inherently receives a message that is addressed to one of a plurality of customer devices. In addition, the Examiner appeared to point to the xDSL line cards 116 shown in appellant's prior art FIG. 1 as constituting the plurality of first line cards required by the claims. In addition, each xDSL line card 116 has a number of local ports (connected to a number of local lines 118).

Further, the Examiner appeared to argue that the local ports of the xDSL line cards 116 are inherently connected to a number of xDSL modems, which the Examiner appeared to read to be the plurality of modems required by the claims. With respect to the plurality of customer devices, the Examiner appeared to argue that a number of customer devices are inherently connected to the xDSL modems.

With respect to the second line card required by the claims, appellant respectfully does not understand the argument set forth by the Examiner, or the Examiner's reliance on the Ma patent. The Examiner appears to suggest that it would be obvious in view of Ma to replace network line card 112 shown in appellant's prior art FIG. 1 with a plurality of network line cards. Applicant, however, is unclear as to the relevance of a single network line card 112 versus a plurality of network line cards 112, and assumes that the Examiner would read network line card 112 shown in appellant's prior art FIG. 1 to be one of the plurality of network line cards 112.

In further rejecting the claims, the Examiner noted that the prior art combination (of admitted prior art FIG. 1 and Ma) does not teach a second line card that receives a message that has an IP address and a subnet mask, identifies a complete IP address from the IP address and the subnet mask of the message, and determines if the complete IP address is identical to an IP address of the plurality of the IP addresses of the plurality of customer devices. However, the Examiner pointed to the Engwer patent as teaching these limitations.

Specifically, the Examiner, citing column 10, lines 18-39, argued that the Engwer patent teaches receiving a message that has an IP address and a subnet mask, identifying a complete IP address from the IP address and the subnet mask, and determining if the complete IP address is identical to an IP address of the plurality of the IP address of the plurality of customer devices.

However, even if the teachings of Engwer were incorporated into the combination of appellant's admitted prior art FIG. 1 and Ma, the resulting structure would still fail to read onto the claims. The text of Engwer cited by the Examiner refers to a wireless unit (WU) 700 that receives messages from different access

points (AP), where the messages include the network protocol addresses and the subnet masks of the APs. The WUs 700, in turn, are customer devices such as computers, faxes, and telephones. (See column 10, lines 1-7 of Engwer.)

In operation, the logic circuit 704 of a WU 700 receives a message from a candidate AP (a potential new AP), extracts the network protocol address and subnet mask of the candidate AP, and stores it in memory 706. (See column 10, lines 21-24 of Engwer.) Thus, Engwer teaches a wireless customer device that receives a message, and stores the network protocol address and subnet mask of the device that sent the message.

In rejecting the claims, the Examiner appeared to argue that in order to build a system with wireless customer devices that can change from one subnet to another, one skilled in the art would be motivated to incorporate the Engwer teachings into appellant's prior art FIG. 1. However, even if the wireless teachings of Engwer were incorporated into appellant's admitted prior art, these teachings are unrelated to a second line card, such as network line card 112 shown in appellant's prior art FIG. 1.

In other words, there is nothing in the Engwer text cited by the Examiner (which is related to wireless customer devices) that would motivate one skilled in the art to modify network line card 112. Instead, if one skilled in the art were motivated to modify something, one skilled in the art would be motivated to modify the inherent customer devices referred to by the Examiner, converting them into wireless customer devices, and the inherent xDSL modems, converting them into wireless xDSL modems.

As a result, even if the wireless teachings of Engwer were incorporated into appellant's prior art FIG. 1, the combination would still fail to teach or suggest a

network line card, such as network line card 112, that receives a message that has an IP address and a subnet mask, identifies a complete IP address from the IP address and the subnet mask of the message, and determines if the complete IP address is identical to an IP address of the plurality of the IP addresses of the plurality of customer devices.

Further, even if, only for the sake of argument, the teachings of the Engwer patent were incorporated into the network port of line card 112 shown in appellant's FIG. 1, then one skilled in the art would understand Engwer to suggest that when the network port of line card 112 receives a message from network segment 114, line card 112 stores the network protocol address and subnet mask of the device that sent the message.

Thus, even if the network port of line card 112 shown in appellant's FIG. 1 were modified in view of the Engwer patent, the combination would still fail to teach or suggest a network line card, such as network line card 112, that receives a message that has an IP address and a subnet mask, identifies a complete IP address from the IP address and the subnet mask of the message, and determines if the complete IP address is identical to an IP address of the plurality of the IP addresses of the plurality of customer devices.

Therefore, since the combination of appellant's prior art FIG. 1, Ma, and Engwer fail to teach or suggest a second line card that receives a message that has an IP address and a subnet mask, identifies a complete IP address from the IP address and the subnet mask of the message, and determines if the complete IP address is identical to an IP address of the plurality of the IP addresses of the plurality of customer devices, claim 13 is patentable over appellant's admitted prior art in view of Ma and further in view of Engwer.

In addition, since claims 14-15 depend either directly or indirectly from claim 13, claims 14-15 are patentable over appellant's admitted prior art in view of Ma and further in view of Engwer for the same reasons that claim 13 is patentable over appellant's admitted prior art in view of Ma and further in view of Engwer.

Rejection under 35 U.S.C. §103(a) Over

Admitted Prior Art, U.S. Patent No. 6,798,743 (Ma),

U.S. Patent No. 7,082,114 (Engwer), and U.S. Patent No. 6,829,239 (Bhatia)

Claim 16

The Examiner additionally rejected claim 16 under 35 U.S.C. §103(a) as being unpatentable over appellant's admitted prior art in view of Ma et al. and Engwer et al. and further in view of Bhatia. Claim 16 depends indirectly from claim 13 and, as a result, is patentable over appellant's admitted prior art in view of Ma et al. and Engwer et al. and further in view of Bhatia for the same reasons that claim 13 is patentable over appellant's admitted prior art in view of Ma et al. and further in view of Engwer et al.

Conclusion

The Examiner's rejections are clearly erroneous and should be reversed.

Respectfully submitted,

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CLAIMS APPENDIX

1. A device comprising:

a bus;

a plurality of first line cards connected to the bus, each first line card having a plurality of local ports, the plurality of local ports being associated with a plurality of customer devices that have a plurality of IP addresses; and

a second line card connected to the bus, the second line card having a network port that is connectable to a network segment, the network port having an IP address and a subnet mask, the subnet mask of the network port identifying a range of IP addresses from the IP address of the network port, the range of IP addresses including all of the plurality of IP addresses of the plurality of customer devices.

2. The device of claim 1 wherein the plurality of local ports are only connectable to a plurality of modems.

3. The device of claim 2 wherein when the second line card receives messages from the network segment, the second line card forwards messages with IP addresses that match the IP addresses of the plurality of customer devices to the first line cards.

4. The device of claim 3 wherein each first and second line card maintains a table that indicates each of the IP addresses that are associated with each port of each first and second line card.

5. The device of claim 4 wherein when a first local port of a first line card is associated with a first customer device that has a first IP address, the first line card identifies messages on the bus that are directed to the first IP address, and forwards the messages to the first local port.

6. The device of claim 4 wherein when a first local port of a first line card is associated with a first customer device that has a first IP address, the first line card receives messages from the first customer device, and forwards the messages to the second line card via the bus.

7. The device of claim 1 wherein the first line cards include xDSL line cards.

13. A method comprising:

receiving a message addressed to one of a plurality of customer devices, the plurality of customer devices to be connected to a plurality of modems, the plurality of modems to be connected to a plurality of first line cards, the plurality of first line cards to be connected to a second line card that received the message, the message having an IP address and a subnet mask, the plurality of customer devices having a plurality of IP addresses;

identifying a complete IP address from the IP address and the subnet mask of the message; and

determining if the complete IP address is identical to an IP address of the plurality of IP addresses of the plurality of customer devices.

14. The method of claim 13 wherein the plurality of customer devices includes a first customer device having a first IP address and a second customer device having a second IP address.

15. The method of claim 14 and further comprising:

forwarding the message to a first line card of the plurality of first line cards when the complete IP address exactly matches the first IP address of the first customer device; and

forwarding the message to the first line card of the plurality of first line cards when the complete IP address exactly matches the second IP address of the second customer device.

16. The method of claim 15 wherein:

each first line card of the plurality of first line cards includes a plurality of local ports that are associated with a number of IP addresses of a number of customer devices of the plurality of customer devices; and

each first line card of the plurality of first line cards maintains a table that includes each port of each first line card, and an associated IP address of a customer device for each port of each first line card that has an associated IP address.

17. A device comprising:

a plurality of first line cards, each first line card having a plurality of local ports, the plurality of local ports to be associated with a plurality of customer devices that have a plurality of IP addresses; and

a second line card connected to the plurality of first line cards, the second line card having a network port to be connected to a network segment, the network port having an IP address and a subnet mask, the second line card identifying a range of IP addresses from the IP address and the subnet mask of the network port, the range of IP addresses including all of the plurality of IP addresses of the plurality of customer devices.

18. The device of claim 17 wherein the plurality of local ports are only to be connected to a plurality of modems.

19. The device of claim 17 wherein the second line card forwards a first message to a first line card when the first message includes a first IP address that falls within the range of IP addresses.

20. The device of claim 19 wherein the second line card forwards a second message to the first line card when the second message includes a second IP address that falls within the range of IP addresses.

21. The device of claim 20 wherein when a first local port of the first line card is associated with a first customer device that has the first IP address, the first line card identifies messages from the second line card that are addressed to the first IP address, and forwards the messages to the first local port.

22. The device of claim 21 wherein when a second local port of the first line card is associated with a second customer device that has the second IP address, the first line card identifies messages from the second line card that are directed to the second IP address, and forwards the messages to the second local port.

23. The device of claim 22 wherein the second line card outputs information to the network segment to advertise the IP address and subnet mask of the network port.

24. The device of claim 22 wherein the first line cards include xDSL line cards.

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EVIDENCE APPENDIX

None.

APPEAL BRIEF

Atty. Docket No. 200-10900
(PB030016AF)

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PATENT

RELATED PROCEEDINGS APPENDIX

None.

APPEAL BRIEF

Atty. Docket No. 200-10900
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